

10/28/96

Mr. James M. Hotinger  
Utilities Engineer  
Division of Energy Regulation  
Virginia State Corporation Commission  
P.O. Box 1197  
Richmond, VA 23209

Dear Mr. Hotinger:

This responds to your letter of July 16, 1996, asking several questions about the corrosion control regulations in 49 CFR Part 192. Our answers are given below.

You asked if §192.491(a) requires records of all anodes installed during leak repairs on both bare and coated steel piping. All anodes would include anodes installed to comply with the corrosion control requirements of Subpart I of Part 192 and anodes installed for some other reason, or voluntarily installed anodes. But pipelines that are cathodically protected voluntarily are not subject to the monitoring requirements of §192.465(a) (48 FR 13432). Since §192.491(a) aids enforcement of and compliance with §192.465(a), it is reasonable to conclude that §192.491(a) does not require records of voluntarily installed anodes. Accordingly, §192.491(a) does not require records of all anodes installed during leak repairs on bare and coated steel piping.

Subpart I does not deal with leak repairs specifically. However, under §192.483(c), "each segment of buried or submerged [steel] pipe that is required to be repaired because of external corrosion must be cathodically protected...." Because §§192.485 and 192.487 require harmful corrosion on steel pipelines to be repaired before leakage occurs, it follows that all corrosion leaks on steel pipelines are required to be repaired. Thus, if an anode is installed on a corrosion leak repair on steel piping, the anode would have to be recorded under §192.491(a). An anode installed on a non-corrosion leak repair would not have to be recorded, unless the leak occurred in an area where cathodic protection is required by §192.465(e) because of active corrosion in the area.

Regarding our May 9, 1973, letter to T. K. Spalding (shown in WinDOT), you asked for an explanation of hot spotting and the monitoring requirements that apply to hot spots. A hot spot is an area of corrosion on an unprotected pipeline, and hot spotting is a method of cathodically

protecting these areas with anodes. Hot spot protected areas are subject to the monitoring requirements of §192.465(a) if the anodes were installed to meet the corrosion control requirements of Subpart I of Part 192. The 3-year evaluation required by §192.465(e) applies to the unprotected segments of a hot spot protected pipeline and to any segments protected by voluntarily installed anodes. Records or maps of these segments are not essential to carrying out the 3-year evaluation required by §192.465(e).

With respect to §192.491(c) (previously §192.491(b)), you asked if operators must keep records of all pipe-to-soil potential readings on a cathodically protected system, including readings taken while attempting to mitigate previously identified corrosion problems. Section 192.491(c) requires each operator to maintain a record of each test, survey, or inspection required by Subpart I of Part 192 in sufficient detail to demonstrate the adequacy of corrosion control measures or that a corrosive condition does not exist. This regulation does not require a record of all corrosion control tests, surveys, or inspections, just the ones required by Subpart I. And for these, the records need only show the adequacy of corrosion control or that a corrosive condition does not exist. So, on a cathodically protected pipeline, the only pipe-to-soil potential readings required to be recorded would be those that demonstrate the adequacy of corrosion control if the protection was installed to comply with Subpart I of Part 192, or that a corrosive condition does not exist if the protection was installed voluntarily. Interim readings that identify a corrosion problem or serve to evaluate an uncorrected problem would not have to be recorded.

For an unprotected pipeline, the only readings required to be recorded would be those that show a corrosive condition does not exist. We do not believe the exposure of an unprotected pipeline for repair is sufficient reason to make an electrical survey practical under the 3-year reevaluation rule of §192.465(e).

You asked if an area of active corrosion includes piping that has or has had a corrosion leak. Section 192.457(c) defines active corrosion as "continuing corrosion which, unless controlled, could result in a condition that is detrimental to public safety." As this definition implies, not all continuing corrosion is active corrosion. For example, some continuing corrosion may be so removed from the public or be occurring at such a slow rate that it could not foreseeably endanger public safety. Likewise, although we concluded above that all corrosion leaks must be repaired, a corrosion leak is not by itself evidence of active corrosion requiring cathodic protection under §192.465(e). To determine if the corrosion that caused the leak is active corrosion, an operator must consider all factors relevant to public safety, including proximity to people, operating pressure, and likely leak or rupture consequences. An area of active corrosion less than 100 feet long that is separately protected may be surveyed on a 10-year sampling basis under §192.465(a). Only the area of active corrosion must be protected, not the entire 100-foot section.

I hope you find this opinion useful in your operator investigation. If you need additional assistance, please call me at 202/366-4565.

Sincerely,

Richard D. Hurlaux, P.E.  
Director for Technology and Regulations  
Office of Pipeline Safety